

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. – 10. Canceled

11. (Currently amended) A heating device comprising:  
a coil that is supplied with predetermined power and generates a predetermined magnetic field;  
a core member with a predetermined characteristic frequency, the core member being disposed near the coil;  
a control section that supplies power with a ~~predetermined~~ frequency within a range of 20.05 to 100 kHz to the coil; and  
an electrically conductive member that produces heat by a magnetic field that is generated by the coil, which is supplied with the ~~predetermined~~ power having a frequency within the range of 20.05 to 100 kHz, from the control section,  
wherein the predetermined characteristic frequency of the ~~coil~~ the core member differs from ~~the a-range of frequencies of the power voltage and current~~ that are output from the control section and;  
the core member is a three-dimensional rectangular body with rectangular surface having a dimension r on one side and a dimension h on another side, the shape meeting the following condition,

$$\underline{h/r^2 < 2.7, \text{ or } h/r^2 > 6.3.}$$

12. Canceled

13. (Currently amended) The heating device according to claim 112, wherein the core member is formed of a magnetic body.

14. (Original) The heating device according to claim 11, wherein the coil comprises a first coil and a second coil, the first coil being disposed closer to the electrically conductive member than the second coil.

15. (Original) The heating device according to claim 14, wherein the first coil has a lower impedance value than the second coil.

16. (Original) The heating device according to claim 15, wherein the first coil and the second coil have an equal inductance value.

17. (New) A heating device comprising:  
means for generating magnetic field which is supplied with predetermined power and generates a predetermined magnetic field;

means for intensifying magnetic coupling with a predetermined characteristic frequency, the intensifying means being disposed near the generating means;

means for supplying power having a frequency within a range of 20.05 to 100 kHz, to the generating means; and

means for producing heat by a magnetic field that is generated by the generating means, which is supplied with the power having a frequency within the range of 20.05 to 100 kHz, from the control section, wherein the predetermined characteristic frequency of the generating means differs from the range of frequencies of the power that are output from the supplying means and;

the intensifying means is a three-dimensional rectangular body with rectangular surface having a dimension  $r$  on one side and a dimension  $h$  on another side, the shape meeting the following condition,

$$h/r^2 < 2.7, \text{ or } h/r^2 > 6.3.$$

18. (New) The heating device according to claim 17, wherein the intensifying means is formed of a magnetic body.

19. (New) The heating device according to claim 17, wherein the generating means comprises a first magnetic field generating means and a second magnetic field generating means, the first magnetic field generating means being disposed closer to the producing means than the second magnetic field generating means.

20. (New) The heating device according to claim 19, wherein the first magnetic field generating means has a lower impedance value than the second magnetic field generating means.

21. (New) The heating device according to claim 20, wherein the first magnetic field generating means and the second magnetic field generating means have an equal inductance value.